Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PUBLICATIONS
OF THE
Astronomical Society of the Pacific.

Vol. XXIX. San Francisco, California, February, 1917 No. 167

LIST OF MEMBERS
OF THE
ASTRONOMICAL SOCIETY OF THE PACIFIC.

FEBRUARY 1, 1917.

OFFICERS OF THE SOCIETY

.....*President*
C. S. CUSHING.....*First Vice-President*
H. D. CURTIS.....*Second Vice-President*
A. H. MARKWART.....*Third Vice-President*
D. S. RICHARDSON.....*Secretary and Treasurer*

Board of Directors—W. W. CAMPBELL, H. D. CURTIS, CHAS. BURCKHALTER, WM. H. CROCKER, C. S. CUSHING, F. V. CORNISH, B. L. HODGHEAD, A. O. LEUSCHNER, A. H. MARKWART, D. S. RICHARDSON, J. COSTA.

Publication Committee—R. G. AITKEN, H. D. CURTIS, H. SHAPLEY.
Finance Committee—C. S. CUSHING, W. H. CROCKER A. H. MARKWART.
Library Committee—D. S. RICHARDSON, F. V. CORNISH.

BRUCE MEDALISTS

SIMON NEWCOMB† .....
AUTHUR AUWERS† .....
Sir DAVID GILL† .....
GIOVANNI V. SCHIAPARELLI† .....
Sir WILLIAM HUGGINS† .....
HERMANN CARL VOGEL† .....
Prof. EDWARD C. PICKERING..... Harvard College Observatory, Cambridge, Mass.
GEORGE W. HILL† .....
JULES-HENRI POINCARÉ† .....
Prof. J. C. KAPTEYN..... Astronomical Laboratory Groningen, Holland.
OSKAR BACKLUND† .....
Dr. W. W. CAMPBELL..... Lick Observatory, Mount Hamilton, Cal.
Prof. GEORGE E. HALE..... Solar Observatory, Pasadena, Cal.
Dr. E. E. BARNARD..... Yerkes Observatory, Williams Bay, Wis.

PATRONS OF THE SOCIETY

EDWARD SINGLETON HOLDEN,† FOUNDER.
JOSEPH A. DONOHOE.†
ALEXANDER MONTGOMERY.†
CATHERINE WOLFE BRUCE.†
JOHN DOLBEER.†
WILLIAM ALVORD.†
WILLIAM MONTGOMERY PIERSON.†
ADOLFO STAHL.

† Deceased.

ABRAHAMSON, Mr. B. E.	251 Montgomery St., San Francisco, Cal.
ADAMS, Dr. C. E.	Hector Observatory, Wellington, N. Z.
AITKEN, Prof. R. G. Foreign Assoc. R.A.S.	Lick Observatory, Mount Hamilton, Cal.
ALDIS, Prof. W. STEDMAN, F.R.A.S.*	5 Beacon Oak Road, Tenterden, Kent, England.
ALEXANDER, Miss ANNIE M.*	92 Seaview Ave., Piedmont (Oakland), Cal.
ALLARD, Mr. S. I.	First National Bank, Eureka, Cal.
ALLYNE, Miss EDITH W.	2609 Gough St., San Francisco, Cal.
ALTSCHUL, Mr. CHARLES	32 West Eighty-sixth St., New York, N. Y.
ANDERSON, Mr. F. B.	Bank of California, San Francisco, Cal.
ASH, Mr. DORSEY	2555 Buena Vista Way, Berkeley, Cal.
AUBERTIN, Mr. J. J., F.R.A.S.*	33 Duke St., St. James, S. W., London, England.
BABCOCK, Mr. ALLEN H.	2227 Piedmont Ave., Oakland, Cal.
BAIRD, Mr. B. A.	135 Fourteenth Ave., San Francisco, Cal.
BAUER, Mr. HANS B.	Manitowoc, Wis.
BAZET, Dr. L.	844 Phelan Building, San Francisco, Cal.
BENEDICT, Mr. PAUL M.	Box 294, New Haven, Conn.
BENKMAN, Mr. EDWIN G.	1956 Fulton St., San Francisco, Cal.
BIENENFELD, Mr. BERNARD	528 Rialto Building, San Francisco, Cal.
BLACK, Mr. A. L.	Care Bank of California, San Francisco, Cal.
BLANEY, Mr. CHARLES D.	Saratoga, Cal.
BLOCHMAN, Mr. L. E.	2434 Bowditch St., Berkeley, Cal.
BOOTHROYD, Prof. S. L.	Dept. of Mathematics, University of Washington, Seattle, Wash.
BOLFING, Mr. A. J.	Hayward, Cal.
BOULTON, JR., Mr. HENRY LORD* F.R.A.S.	Carácas, Venezuela, or Box 2015, New York, N. Y.
BRACKETT, Prof. F. P.	Pomona College, Claremont, Cal.
BRASCH, Mr. F. E.	1595 Massachusetts Ave., Cambridge, Mass.

* Life Member.

BRASHEAR, Mr. J. A., F.R.A.S.	Allegheny City, Pa.
BRENNAN, Rev. M. S.	6304 Minnesota Ave., St. Louis, Missouri.
BREWER, Mr. EDWARD M.	27 Kilby St., Boston, Mass.
BROWN, Miss FLORENCE	1217 Twelfth St., Modesto, Cal.
BROWN, Mr. ARTHUR M.	202 Sansome St., San Francisco, Cal.
BURCKHALTER, Mr. CHARLES, F.R.A.S.	Chabot Observatory, Oakland, Cal.
"BUTSURI"	Care of Maruzan Co., Kyoto, Japan.
CALLANDREAU, Dr. J.*	Oradour sur Vayres, Haute Vienne, France.
CAMPBELL, Prof. W. W. Foreign Assoc. R.A.S.	Director of Lick Observatory, Mount Hamilton, Cal.
CAMPBELL, Mr. WALLACE	Mount Hamilton, Cal.
CARNEGIE, Mr. ANDREW*	5 West Fifty-first St., New York, N. Y.
CASEY, Col. THOMAS L., U. S. A.*	Stoneleigh Court, Washington, D. C.
CEBRIAN, Mr. J. C.*	1801 Octavia St., San Francisco, Cal.
CHIEF ASTRONOMER, DEPARTMENT OF THE INTERIOR	Department of the Interior, Ottawa, Canada.
CLARK, Mr. MATEO*	1 Victoria St., Westminster, S. W., London, England.
COLTON, Mr. A. L.*	P. O. Box 137, Washington, D. C.
COMFORT, Major S.	Care Bedford Petroleum Cie., 67 Boulevard Haussmann, Paris, France.
CONARD, Mr. CLAUDE G.	Box 146, Glendale, Cal.
CONROY, Mr. CHARLES C., F.R.A.S.	P. O. Box 826, Los Angeles, Cal.
COOK, Mr. JOHN A.	123½ Vine St., Macon, Mo.
CORNISH, Mr. FRANK V.	Underwood Building, San Francisco, Cal.
COSTA, Mr. J.	246 Montgomery St., San Francisco, Cal.
COUNIHAN, Mr. EDWARD	311 Battery St., San Francisco, Cal.
COX, Mrs. MARIE CAUL	Box 824, El Centro, Imperial County, Cal.
CRANE, Mr. JOHN J.*	Sandwich, Mass.
CRAWFORD, Prof. RUSSELL TRACY	Students' Observatory, Berkeley, Cal.
CROCKER, Mr. WILLIAM H.*	Crocker National Bank, San Francisco, Cal.
CUNNINGHAM, Miss S. J.	107 North Thirty-fourth St., Philadelphia, Pa.

* Life Member.

CURTIS, Prof. HEBER D.	Lick Observatory, Hount Hamilton, Cal.
CUSHING, Mr. CHAS. S.*	821 First National Bank Building, San Francisco, Cal.
DAVIDSON, Mr. J. EWEN*	98 Banbury Road, Oxford, England.
DEVLIN, Mr. FRANK J.	100 Sansome St., San Francisco, Cal.
DONOHOE, Mr. J. A.	Vice-President Donohoe-Kelly Banking Co., San Francisco, Cal.
DYER, Mr. ERNEST I.	231 Mills Building, care Union Oil Co., San Francisco, Cal.
EDWARDS, Prof. GEORGE C.	2546 Dana St., Berkeley, Cal.
EINARSSON, Dr. STURLA	Students' Observatory, Berkeley, Cal.
ELLERMAN, Mr. FERDINAND	Solar Observatory, Mount Wilson, Cal.
EVERSHED, Mrs. JOHN	The Observatory, Kodaikanal, South India.
FONTANA, Mr. M. J.	825 Francisco St., San Francisco, Cal.
FORBES, Mr. ANDREW B.*	Formerly 401 California St., San Francisco, Cal.
FORTMANN, Mr. HENRY F.*	85 Second St., San Francisco, Cal.
FOSTER, Mr. ARTHUR W.*	Flood Building, San Francisco, Cal.
FRICK, Mr. H. C.*	42 Fifth Ave., Pittsburgh, Pa.
FRY, Mr. ROBERT D.*	628 Montgomery St., San Francisco, Cal.
GALLOWAY, Mr. J. D.	1500 Euclid Ave., Berkeley, Cal.
GELDERN, Mr. OTTO VON	865 Pacific Building. San Francisco, Cal.
GLANCY, Miss ESTELLE	National Observatory, Córdoba, Argentina.
GRANT, Mr. JOSEPH D.*	Burlingame, Cal.
GREIG, Mr. ANDREW*	10 Cluny Gardens, Edinburgh, Scotland.
HALE, Prof. GEORGE E.* Foreign Assoc. R.A.S.	Director of Solar Observatory, Solar Observatory Office, Pasadena, Cal.
HARTNESS, Mr. JAMES	30 Orchard St., Springfield, Vt.
HEARST, Mrs. PHOEBE A.	Hearst Building, San Francisco, Cal.
HILL, Mr. HORACE L.*	Care of Laidlaw & Co., New York City.
HINCHMAN, Mrs. LYDIA S.	3635 Chestnut St., Philadelphia, Pa.

* Life Member.

HODGHEAD, Mr. BEVERLY L.	Holbrook Building, San Francisco, Cal.
HOFFMAN, Mr. SAMUEL V., F.R.A.S.*	91 Madison Ave., Morristown, N. J.
HOWAT, Mr. WM.*	458 William St., Melbourne, Victoria.
HOWE, Prof. CHAS. S., F.R.A.S.	Case Observatory, Cleveland, Ohio.
HUSSEY, Prof. W. J.* Foreign Assoc. R.A.S.	Director Detroit Observatory, Ann Arbor, Mich.
HYDE, Mr. HENRY K.	Ware, Mass.
ISAAC, Miss ROSA	2455 Vallejo St., San Francisco, Cal.
KEENEY, Mr. CHARLES C.*	2220 Clay St., San Francisco, Cal.
KENNELLY, Prof. A. E., F.R.A.S.*	Division of Engineering, Harvard University, Cambridge, Mass.
KINNEY, Mr. CABELL C.	201 Sansome St., San Francisco, Cal.
KÖHL, Mr. TORVALDA*	Odder, Denmark.
DE LANDERO, Mr. C. F.*	P. O. Box 1, Pachuca, State Hidalgo, Mexico.
LARKIN, Prof. EDGAR L.	Director Mount Lowe Observatory, Echo Mountain, Cal.
LEE, Mr. FREDERICK M.	401 Mills Building, San Francisco, Cal.
LEONARD, Mr. FREDERICK C., F.R.A.S.	1338 Madison Park, Chicago, Ill.
LEWIS, Mr. CLARENCE MACKENZIE*	Care Wm. Salomon & Co., 25 Broad St., New York, N. Y.
LEUSCHNER, Prof. A. O., F.R.A.S.	Director Students' Observatory, Berkeley, Cal.
LIETZ, Mr. ADOLPH	632 Commercial St., San Francisco, Cal.
LINSLEY, Prof. EARLE G.	3732 Emerson St., Oakland, Cal.
LOOMIS, Mr. HENRY B.*	Seattle, Wash.
LEWIS, Mr. E. P.	University of California, Berkeley, Cal.
LUDEWIG, Mr. W. R.	Care J. A. Brashear, 1954 Perryville Ave., Pittsburgh, Pa.
LYNCH, Mr. JAMES K.	First National Bank, San Francisco, Cal.
MADDRILL, Dr. JAMES D., F.R.A.S.*	1 Edwards St., Hartford, Conn.
MANSON, Mr. MARSDEN, C.E., PH.D.	848 Mills Building, San Francisco, Cal.
MARKWART, Mr. A. H.	377 Palm Ave., Oakland, Cal.
MARTENS, Mr. FERDINAND	1809 Euclid Ave., Berkeley, Cal.
MASSEY, Mr. H. N.	Girls' High School, San Francisco, Cal.
MAW, Mr. W. H., F.R.A.S.*	18 Addison Road, Kensington, London, England.

* Life Member.

McADIE, Prof. A. G.	Blue Hill Observatory, Readville, Mass.
McENERNEY, Mr. GARRET W.	Hobart Building, San Francisco, Cal.
McGREGOR, Mr. JOHN A.*	President Union Works, San Francisco, Cal.
McNEILL, Prof. MALCOLM	Lake Forest, Ill.
MEYER, Mr. W. F.	International Latitude Observatory, Ukiah, Cal.
MOFFITT, Mr. JAMES K.	First National Bank, San Francisco, Cal.
MOLERA, Mr. E. J., C.E.*	2025 Sacramento St., San Francisco, Cal.
MOORE, Dr. J. H.	Lick Observatory, Mount Hamilton, Cal.
MORRISON, Mr. A. F.*	Crocker Building, San Francisco, Cal.
MORSE, Mr. FREMONT, U. S. C. & G. SUR.	U. S. Coast and Geodetic Survey, Manila, P. I.
MUNDT, Mr. CARLOS S.	Students' Observatory, Berkeley, Cal.
MURDOCK, Mr. C. A.	2812 Sacramento St., San Francisco, Cal.
MURPHY, Hon. B. D.*	San Francisco, Cal.
NEUBAUER, Mr. F. J.	Students' Observatory, Berkeley, Cal.
NEWALL, Mr. H. F., F.R.S.*	Director Astrophysical Observatory, Cambridge, England.
NEWKIRK, Dr. B. L.	519 Essex St., S. E., Minneapolis, Minn.
NIJHOFF, Mr. MARTINUS	Lange Voorhout 9, S. Gravenhage, Netherlands.
NOORDHOFF, Mr. P.	Groeningen, Holland.
NUTTING, Mr. FRANKLIN P.*	339 Holbrook Building, San Francisco, Cal.
O'HALLORAN, Miss ROSE	237 Broderick St., San Francisco, Cal.
OLNEY, Hon. WARREN	427 Twenty-ninth St., Oakland, California.
PADDOCK, Mr. GEORGE FREDERICK*	63 Governor St., Providence, R. I.
PARDEE, Hon. GEORGE C.	672 Eleventh St., Oakland, Cal.
PATTEN, Mr. JOHN*	Care Maryland Academy of Sciences, 105 West Franklin St., Baltimore, Md.
PERKINS, Hon. GEO. C.*	Oakland, Cal.
PERRINE, Prof. C. D.* Foreign Assoc. R.A.S.	Director Córdoba Observatory, Córdoba, Argentine Republic.
PETTIT, Mr. EDISON	Washburn College Observatory, Topeka, Kansas.

* Life Member.

PHELAN, Hon. JAMES D.	606 Phelan Building, San Francisco, Cal.
PHIPPS, JR., Mr. HENRY*	Carnegie, Phipps & Co., Pittsburgh, Pa.
PIKE, Mr. RUTHVEN W.*	Room 914 South LaSalle St., No. 19, care Arthur B. Wells, Chicago, Ill.
PORTER, Miss JULIET*	37 Deane St., Worcester, Mass.
POST, Mr. CHARLES A., F.R.A.S.	Post Building, 16 and 18 Exchange Place, New York, N. Y.
PREUSS & JÜNGER	1 Ring 52, Breslau, Germany.
RICARD, Rev. J. L., S. J.	Santa Clara, Cal.
RICHARDSON, Mr. DANIEL S.	2541 Hilgard Ave., Berkeley, Cal.
ROBERTS, Mrs. ISAAC, D. SC.	Chateau Rosa Bonheur. By Thomery, Seine et Marne, France.
RODGERS, Mrs. ARTHUR*	Formerly Leavenworth and Vallejo Sts., San Francisco, Cal.
ROHANI THIRUNAL RAJA, The Prince	Assistant Director and Astronomer of the Royal Observatory, Kizhakke Katharam Palace, Trivandrum, Travancore, India.
ROOS, Mr. ROBERT A.	Stockton and Market Sts., San Francisco, Cal.
ROSSEAU, Mons. GEORGES	6 Rue Richelieu, Odessa, Russia.
ROSENTHAL, Mr. LOUIS	302 California St., San Francisco, Cal.
DE SABLA, JR., Mr. E. J.*	San Mateo, Cal.
SCHAEBERLE, Prof. J. M.*	502 Second St., Ann Arbor, Mich.
SCHIFF, Mr. JACOB H.*	932 Fifth Ave., New York, N. Y.
SCHWIERS, Mr. LUDWIG	Lower Lake, Cal.
SEARES, Prof. FREDERICK H.	Solar Observatory, Pasadena, Cal.
SEARLE, Rev. GEORGE M., C.S.P.	Newman Hall, Berkeley, Cal.
SEE, Dr. T. J. J., F.R.A.S.*	Naval Observatory, Mare Island, Cal.
SELGA, Prof. M., S.J.	Observatory of Manila, Manila, P. I.
SHANE, Mr. C. D.	Lick Observatory, Mount Hamilton, Cal.
SHAPLEY, Dr. HARLOW	Solar Observatory, Pasadena, Cal.
SMITH, Mr. E. C.*	Saint Albans, Vermont.
SNOW, Mr. LORENZO L.	Care Mount Wilson Solar Observatory, Pasadena, Cal.

* Life Member.

SNYDER, Prof. M. B., F.R.A.S.	Director of Philadelphia Observatory, Philadelphia, Pa.
SPENCER, Mr. GEORGE OTIS	125 West Ohio St., Chicago, Ill.
SPRECKELS, Mr. RUDOLPH	1900 Pacific Ave., San Francisco, Cal.
SPRECKELS, Mr. A. B.*	58 Clay St., San Francisco, Cal.
SPRECKELS, Mr. C. A.*	138 Front St., New York, N. Y.
SPRECKELS, Mrs. C. A.*	91 Wall St., New York, N. Y.
SPROULE, Mr. WM.*	Flood Building, San Francisco, California.
STANFORD, Miss GERTRUDE	Warm Springs, Alameda County, Cal.
STANFORD, Mr. THOS. W.*	142 Russell St., Melbourne, Victoria.
STONE, Mr. JULIUS*	Care Seagrave Co., Columbus, Ohio.
STRÓYBERG, Mr. V.*	Actuary, Fredericksborggrade 54[4], Copenhagen-k, Denmark.
STAHL, Mr. ADOLFO*	Care Schwartz Bros., 14 Montgomery St., San Francisco, Cal.
STILLMAN, Dr. STANLEY	2336 Broadway, San Francisco, California.
STOY, Mr. SAM B.	332 Pine St., San Francisco, Cal.
SWAN, Mr. D. S.	1219 Harper Ave., Los Angeles, Cal.
TAIT, Mr. A. O.	Mountain View, Cal.
TALBOT, Mr. C. F. A.	Redwood City, Cal.
TAULBUT, Mr. ANTHONY S.	Mission City, B. C.
TAUSSIG, Mr. RUDOLPH J.	200 Mission St., San Francisco, Cal.
TRABERT, Mr. CHARLES L.	2736 Elmwood Ave., Berkeley, Cal.
TOWNLEY, Prof. S. D.	P. O. Box 815, Stanford University, Cal.
TUCKER, Prof. R. H.	Lick Observatory, Mount Hamilton, Cal.
TURCHINOVICH, Mons. N. T.	Liteiny 30, Petrograd, Russia.
TURNER, Dr. ARTHUR B.	Montclair, N. J.
TURNER, Mr. HENRY J.*	Woodville, Rappahannock County, Virginia.
TYSON, Mr. R. J*	Seaboard Bank, 24 Market St., San Francisco, Cal.
VANASEK, Mr. TOMAS S.	Students' Observatory, Berkeley, Cal.
VANDRUFF, Mr. R. E.	Drawer 68, Station A, San Diego, Cal.
VILLIGER, Dr. W.	Care of Carl Zeiss; z. Hd. Dr. M. von Rohr, Jena, Germany.

* Life Member.

VOLKMANN, Mr. GEORGE F.*	301 Second St., San Francisco, Cal.
WARNER & SWASEY CO., THE	East Prospect St., Cleveland, Ohio.
WELCH, Mr. FRANK H.	14 Bank St., Brunswick, Maine.
WHITE, Dr. ANDREW D.*	Ithaca, N. Y.
WILLMARTH, Mrs. MARY H.*	222 Michigan Ave., Chicago, Ill.
WILLIAMS, Prof. JOHN E.	Ceres, California.
WILSON, Mr. FREDERICK A.	328 Mason St., San Francisco, Cal.
WITKOVSKY, Gen. B.*	Lesnoi, Gr. Obiesdnaja 16, Petrograd, Russia.
WOODMAN, Rev. CLARENCE E., SC.D., PH.D., LITT.D., LL.D.	Newman Hall, 2630 Ridge Road, Berkeley, Cal.
ZIEL, Mr. F. R.	607 Merchants Exchange Building, San Francisco, Cal.

INSTITUTIONAL MEMBERS.

CASE SCHOOL OF APPLIED SCIENCE	Room 503 Chamber of Commerce Bldg., Cleveland, Ohio.
CALIFORNIA STATE LIBRARY	Sacramento, Cal.
DANIEL SCHOLL OBSERVATORY	Franklin and Marshall College, Lancaster, Pa.
DIRECTOR, DOMINION ASTRONOMICAL OBSERVATORY	Victoria, B. C.
HELWAN OBSERVATORY	Care Ministry of Public Works, Cairo, Egypt.
LIBRARY OF THE CHABOT OBSERVATORY	Oakland, Cal.
LIBRARY OF THE UNIVERSITY OF MINNESOTA	Minneapolis, Minn.
LIBRARY OF THE UNIVERSITY OF CALIFORNIA	Berkeley, Cal.
LIBRARY OF THE UNIVERSITY OF ILLINOIS	University Station, Urbana, Ill.
LIBRARY OF THE UNIVERSITY OF INDIANA	Bloomington, Indiana.
LIBRARY OF THE UNIVERSITY OF MICHIGAN	Ann Arbor, Mich.
LIBRARY OF THE UNIVERSITY OF NEBRASKA	Lincoln, Neb.
LIBRARY OF THE UNIVERSITY OF PENNSYLVANIA	Philadelphia, Pa.
LIBRARY OF THE UNIVERSITY OF WASHINGTON	Seattle, Wash.
LIBRARY OF YALE UNIVERSITY	New Haven, Conn.
LIBRARY OF THE UNIVERSITY OF KANSAS	Lawrence, Kansas.
L'OBSERVATOIRE ASTRONOMIQUE DE L'UNIVERSITÉ IMPÉRIALE D'ODESSA	Odessa, Russia.

* Life Member.

LOWELL OBSERVATORY	Flagstaff, Arizona.
NEW YORK PUBLIC LIBRARY	476 Fifth Ave., New York, N. Y.
OAKLAND FREE PUBLIC LIBRARY	Oakland, Cal.
SEATTLE PUBLIC LIBRARY	Seattle, Wash.
SHATTUCK OBSERVATORY	Dartmouth College, Hanover, N. H.
SMITH COLLEGE LIBRARY	Northampton, Mass.
SMITH OBSERVATORY LIBRARY	Beloit, Wis.
SOCIETY OF AMATEUR ASTRONOMERS	47 Mjasrnitzkaja, Moscow, Russia.
SPROUL OBSERVATORY	Swarthmore College, Swarthmore, Pa.
THE ASTRONOMER	Union Observatory, Johannesberg, Transvaal.
THE JOHN CRERAR LIBRARY	Chicago, Ill.
THE PUBLIC LIBRARY	Boston, Mass.
THE PUBLIC LIBRARY	Los Angeles, Cal.
WASHINGTON UNIVERSITY LIBRARY	St. Louis, Mo.
LIBRARY OF WESLEYAN UNIVERSITY	Middletown, Conn.
LIBRARY OF WELLESLEY COLLEGE	Wellesley, Mass.
LIBRARY OF BROWN UNIVERSITY	East Side Station, Providence, R. I.
LIBRARY U. S. MILITARY ACADEMY	West Point, N. Y.
LIBRARY OF WILLIAMS COLLEGE	Williamstown, Mass.
LIBRARY OF THE UNIVERSITY OF OREGON	Eugene, Oregon.
LIBRARY OF THE LELAND STANFORD JR. UNIVERSITY	Stanford University, Cal.
LIBRARY OF THE LICK OBSERVATORY	Mount Hamilton, Cal.
LIBRARY OF THE MECHANICS INSTITUTE	57 Post St., San Francisco, Cal.
LIBRARY OF PRINCETON UNIVERSITY	Princeton, N. J.
LIBRARY OF ST. IGNATIUS COLLEGE	2211 Hayes St., San Francisco, Cal.

CORRESPONDING INSTITUTIONS

Albany, New York, Dudley Observatory.
Arequipa, Peru, Southern Station, Harvard College Observatory.
Allegheny, Pennsylvania, Allegheny Observatory.
Armagh, Ireland, Armagh Observatory.
Bamberg, Germany, Remeis-Sternwarte.
Bergedorf, Germany, Hamburger Sternwarte.
Berlin, Germany, Königl. Astronomisches Recheninstitut.
Berlin, Germany, Königliche Sternwarte.
Kiel, Germany, Bibliotheque de la Societe Belge d'Astronomie, care Prof. H. Kobold, Moeltke Sta. 80,
Kiel, Germany, Observatoire Royal de Belgique, care Prof. H. Kobold, Moeltke Sta. 80.
Bruxelles, Belgium, Société Belge d'Astronomia.
Cambridge, England, University Observatorv.

Cape Town, Africa, Royal Observatory.
Christiana, Norway, Universitäts-Sternwarte.
Cincinnati, Ohio, Cincinnati Observatory, Station O.
Columbia, Missouri, Laws Observatory, University of Missouri.
Copenhagen, Denmark, Observatory.
Córdoba, Argentine Republic, National Observatory.
Dorpat, Russia, University Observatory.
Dublin, Ireland, Dunsink Observatory.
Dublin, Ireland, Royal Dublin Society.
Edinburgh, Scotland, Royal Observatory.
Geneva, Switzerland, Observatoire.
Glasgow, Scotland, University Observatory.
Gotha, Germany, Herzogliche Sternwarte.
Goettingen, Germany, Königliche Sternwarte.
Greenwich, England, Royal Observatory.
Hamburg, Germany, Hamburger Sternwarte.
Heidelberg, Germany, Astrometrische Abteilung der Grossherzoglichen Sternwarte.
Heidelberg, Germany, Astrophysikalische Abteilung der Grossherzoglichen Sternwarte.
Helsingfors, Russia, University Observatory.
Hiram, Ohio, Observatory of Hiram College.
Kasan, Russia, University Astronomical Observatory.
Kiel, Germany, Stroobant, Prof. Paul, care Prof. H. Kobold, Moeltke Sta. 80.
Kiel, Germany, Universitäts-Sternwarte.
Kodaikanal, Palani Hills, South India, Observatory.
Koenigsberg, in Pr. Germany, Königliche Sternwarte.
La Plata, Argentine Republic, Observatory.
Leipsic, Germany, Universitäts-Sternwarte.
Leyden, Holland, Universitäts-Sternwarte.
Lisbon (Tapada), Portugal, Real Observatorio.
London, England, British Museum.
London, England, The Nautical Almanac, 3 Verulam Bldgs., Gray's Inn.
London, England, Royal Astronomical Society.
Lund, Sweden, University Observatory.
Madison, Wisconsin, Washburn Observatory.
Madrid, Spain, Observatorio Astronómico.
Marseilles, France, Observatoire.
Melbourne, Victoria, Observatory.
Milan, Italy, Osservatoria Astronomico di Brera.
Moscow, Russia, University Observatory.
Mount Wilson, via Pasadena, Cal., Solar Observatory.
Munich, Germany, Königliche Sternwarte.
Naples, Italy, Osservatorio Astronomico.
New Haven, Conn., Yale Observatory.

New York, New York, Columbia University Observatory.
Nice, France, Observatoire.
Northfield, Minnesota, Goodsell Observatory.
Oxford, England, Radcliffe Observatory.
Oxford, England, University Observatory.
Padua, Italy, Osservatorio Astronomico.
Paris, France, Bureau des Longitudes.
Paris, France, Observatoire National.
Paris, France, Société Astronomique de France, Rue Cassini 16.
Potsdam, Germany, Astrophysikalisches Observatorium.
Prague, Austro-Hungary, Universitäts-Sternwarte.
Pulkowa, Russia, Imperial Observatory.
Rio de Janeiro, Brazil, Observatory.
Rome, Italy, Osservatorio Astronomico del Collegio Romano.
Rome, Italy, Specula Vaticana.
San Francisco, Cal., California Academy of Sciences.
San Francisco, Cal., Technical Society of the Pacific.
Sydney, New South Wales, Observatory.
Tacubaya, Mexico, Observatorio Astronómico Nacional.
Tokio, Japan, University Observatory.
Toulouse, France, Observatoire.
University Park, Colorado, Chamberlin Observatory.
University of Virginia, Virginia, McCormick Observatory.
University of Pennsylvania, Upper Darby, Pa., Flower Observatory.
Upsala, Sweden, University Observatory.
Vienna, Austria, K. K. Sternwarte.
Vienna (Ottakring), Austria, Von Kuffnersche Sternwarte.
Washington, D. C., Library of Congress, Periodical Division.
Washington, D. C., National Academy of Sciences.
Washington, D. C., Naval Observatory.
Washington, D. C., Smithsonian Institution.
Washington, D. C., Nautical Almanac, U. S. Naval Office.
Washington, D. C., U. S. Coast and Geodetic Survey.
Williams Bay, Wisconsin, Yerkes Observatory.
Zurich, Switzerland, Observatory.
City of Mexico, Mexico, Direccion de Estudios Geográficos y Climotologicos, Tacubaya.
Kasan, Russia, Observatoire Engelhardt, Universite Imperial de Kasan.

EXCHANGES.

Astronomische Nachrichten, Kiel, Germany.
Prof. ELIS STRÖMGREN, Observatory of Copenhagen, Denmark.
Prof. A. A. NIJLAND, The Observatory, Utrecht, Holland.
Dr. H. H. KRITZINGER, Editor of *Sirius,* Berlin N. W. 40 Hindersin Str. 7, III, Germany.
Revista de la Sociadad Astronómica de Espana y America, Barcelona, Spain.

Mr. F. ARCHENHOLD, Director of Treptow Sternwarte, Berlin, Germany.
Mr. C. A. CHANT, Royal Astronomical Society of Canada, Toronto, Can.
Mr. E. DELPORTE, care Prof. H. Kobold, Moeltke Sta. 80, Kiel, Germany.
Sociedad Astronómica, via Diagonal 442-3 Ia, Barcelona, Spain.
Dr. H. KRITZINGER, 40 Hindersin Str., Berlin, N. W., Germany.
Observatorio Astronómico de Cartuja, Granada, Spain.
Prof. L. PRAIKA, Nizbor Observatory, Bohemia.
Gazette Astronomique, Société d'Astronomie d'Auvers, 29 Stamford St., London, S. E., England.
Astrophysical Journal, Williams Bay, Wisconsin.
Popular Astronomy, Northfield, Minn.
The Observatory, Greenwich, England.
Revista di Astronomia, Società Astronomica Italiana, Turin, Italy.
Orion, Strada Rosca No. 3, Bucharest, Roumania.
Journal Astronomique, Observatoire de Lille, Hem, France.
Astronomia Populare, Palazo Madama, Turin, Italy.
Società Astronomica Italiana, Rue Maria Vittoria 23, Turin, Italy.
The Journal of the British Astronomical Association, care F. W. Levander, 30 North Villas, Camden Square, N. W., London, England.
Monthly Notices, Royal Astronomical Society, London, England.
American Mathematical Society, 501 West 116th St., New York, N. Y.
Societa Degli Spettroscopisti Italiani, Cantania, Italy.
Sociedad Cientifica "Antonio Alzate," Mexico, Mexico.
Solar Observatory, Mount Wilson, via Pasadena, Cal.
American Philosophical Society, 105 South Fifth St., Philadelphia, Pa.
Mr. EDWARD F. BIGELOW, President Agassiz Association, Sound Beach, (Arcadia), Conn.
Harvard College Observatory, Cambridge, Mass.
The Monthly Evening Star Map, 150 Nassau St., New York, N. Y.
The Astronomical Herald, Tokyo, Japan.
Publication of Pomona College, Claremont, Cal.
The Astronomical Journal, Dudley Observatory, Albany, N. Y.
Journal de Physique, No. 1 Victor Cousin, Paris, France.
Journal of the Royal Astronomical Society of Canada, 198 College St., Toronto, Canada.
Ciel et Terre, care Prof. H. Kobold, Moeltke Sta. 80, Kiel, Germany.
Library Weather Bureau, Washington, D. C.
The Examiner, San Francisco, Cal.
The Chronicle, San Francisco, Cal.
The Bulletin, San Francisco, Cal.
The Call, San Francisco, Cal.
The Tribune, Oakland, Cal.
The Enquirer, Oakland, Cal.
The Gazette, Berkeley, Cal.
The Times, Los Angeles, Cal.
The Mercury, San Jose, Cal.